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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,392	09/11/2003	Katsuya Watanabe	2003_1294A	3776

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EXAMINER

RIVERO, MINERVA

ART UNIT PAPER NUMBER

2627

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/659,392	Applicant(s) WATANABE ET AL.	
	Examiner Minerva Rivero	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 12, 26-28, 33 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-25 and 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Election/Restrictions*

2. Applicant's election without traverse of Species I in the reply filed on 6/02/06 is acknowledged.
3. Claims 12, 26-28 and 33-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/2/06.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-11, 13-25, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto *et al.* (US 6,028,826), hereinafter Yamamoto.

6. Regarding claims 1, 3, 13, 15, 29 and 32, Yamamoto discloses an optical disc apparatus for recording or playing back optical information on an optical disc, comprising:

a convergence lens for converging an optical beam that is irradiated on the optical disc (Col. 10, Line 54);

a light detection unit operable to receive and detect the optical beam reflected by the optical disc on each divided area in a tracking direction, and output a first detection signal corresponding to a detected result from either one of the divided areas and a second detection signal corresponding to a detected result from the other divided area (Col. 5, Lines 17-32);

a lens shifting unit operable to shift the light receiving area of the light detection unit in a tracking direction by shifting the convergence lens in the tracking direction (Col. 9, Lines 18-20);

an amplifying unit operable to change a gain balance by amplifying the first and the second detection signals using independent gains respectively (Col. 2, Lines 57-62);

an addition unit operable to output an addition signal by adding the first detection signal to the second detection signal in response to the shift in lens position of the convergence lens and the change in gain balance made by the lens shifting unit and the amplifying unit (*first and second addition signals*, Col. 5, Lines 30-46);

a gain balance adjustment unit operable to obtain the addition signal outputted from the addition unit, specify a gain balance that equalizes detection sensitivities of the respective areas in the light detection unit based on the obtained result, and control the amplifying unit so as to have the amplifying unit amplify the first and the second detection signals using the determined gain balance (Col. 3, Line 60 – Col. 4, Line 10); and

a lens position adjustment unit operable to obtain the addition signal outputted from the addition unit, specify a lens position that equalizes sizes of the respective areas for receiving optical beam in the light detection unit based on an obtained result, and control the lens shifting unit so that the convergence lens shifts to the determined lens position (*converging device*, Col. 7, Lines 10-13, 17-22 and 25-28; *accurately correcting an offset in a tracking error signal caused by the lens shift*, Col. 9, Lines 16-24).

7. Regarding claims 2, 16 and 20, Yamamoto discloses the gain balance adjustment unit specifies a predetermined gain balance as a gain balance that equalizes detection sensitivities of the respective areas in the light detection unit in the case where an addition signal becomes constant when a lens position

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shifts in the predetermined gain balance (*determining an amplification ratio so that both signals have a prescribed relationship*, Col. 3, Lines 51-57 and Col. 4, Lines 4-10).

8. Regarding claims 4, 5, 14, and 17, Yamamoto discloses the lens position adjustment unit specifies the predetermined lens position as a lens position that equalizes sizes of the respective areas for receiving optical beam in the light detection unit in the case where an addition signal becomes constant when a gain balance changes at the predetermined lens position (*accurately correcting an offset in a tracking error signal caused by the lens shift*, Col. 9, Lines 16-24; *determining an amplification ratio so that both signals have a prescribed relationship*, Col. 3, Lines 51-57 and Col. 4, Lines 4-10).

9. Regarding claims 6, 18, 19 and 31, Yamamoto discloses the amplifying unit changes a gain balance so that an addition result of a gain of the first detection signal and a gain of the second detection signal becomes constant (*determining an amplification ratio so that both signals have a prescribed relationship*, Col. 3, Lines 51-57 and Col. 4, Lines 4-10; *correcting an offset*, Col. 9, Lines 25-29).

10. Regarding claims 7, 21 and 30, Yamamoto discloses the amplifying unit changes a gain of either one of the first detection signal or the second detection signal (Col. 3, Line 60 – Col. 4, Line 10).

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11. Regarding claims 8 and 22, Yamamoto discloses the amplifying unit changes the gain balance to a first and second gain balances (*determining an amplification ratio so that both signals have a prescribed relationship*, Col. 3, Lines 51-57 and Col. 4, Lines 4-10; Col. 3, Line 60 – Col. 4, Line 10), and

the lens position adjustment unit shows a relation between a lens position and an addition signal in the first gain balance with function approximation, shows a relation between a lens position and an addition signal in the second gain balance with function approximation, and specifies a lens position shown by an intersection of both functions as a lens position that equalizes the sizes of the respective areas for receiving the optical beam in the light detection unit (*positional offset and addition signals*, Col. 5, Lines 28-33; *focusing position and converging state*, Col. 7, Lines 50-59; *converging lens*, Col. 4, Lines 47-52).

12. Regarding claims 9 and 23, Yamamoto discloses a subtraction unit operable to output a subtraction signal by calculating the difference between the first detection signal and the second detection signal whose gain balance is adjusted by the gain balance adjustment unit (*phase difference*, Col. 5, Line 65 – Col. 5, Line 3);

a subtraction signal amplifying unit operable to amplify the subtraction signal (*variable amplifier*, Col. 1, Lines 60-65);

a gain adjustment unit operable to change the gain of the subtraction signal amplifying unit in response to the addition signal outputted from the

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addition unit (*adjusting gain*, Col. 1, Lines 15-16; *variable amplifier*, Col. 1, Lines 60-65); and

a tracking control unit operable to control the lens shifting unit so that optical beam can follow the tracks of the optical disc based on the subtraction signal amplified by the subtraction signal amplifying unit (*correcting an offset in the tracking error signal caused by the lens shift*, Col. 9, Lines 25-29; Col. 2, Lines 11-13).

13. Regarding claims 10 and 24, Yamamoto discloses the gain balance adjustment unit specifies the predetermined gain balance as the gain balance that equalizes the detection sensitivities in the respective areas in the light detection unit in the case wherein a change rate of the addition signal on the lens position becomes "0" in the predetermined gain balance (*correcting an offset*, Col. 9, Lines 25-29).

14. Regarding claims 11 and 25, Yamamoto discloses the lens shifting unit shifts the convergence lens to a first and a second lens positions (*comparing signals from two light-receiving areas*, Col. 2, Lines 37-46), the gain balance adjustment unit shows the relation between a gain balance and an addition signal in the first lens position with function approximation, shows a relation between a gain balance and an addition signal in the second lens position with function approximation, and specifies a gain balance shown by an intersection of both functions as a gain balance that equalizes the detection sensitivities of the



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respective areas in the light detection unit (*comparing signals from two light-receiving areas*, Col. 2, Lines 37-46).

### **Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hokodate *et al.* (US Patent 6,353,203) disclose an apparatus including a detector for changing a direction of a laser beam.

Watanabe *et al.* (US Patent 6,285,635) disclose an optical disk apparatus including a converging part for converging a light beam.

Fukunaga *et al.* (US Patent 5,841,465) disclose a light beam focal position detecting device.

Sasaki *et al.* (US Patent 5,629,911) disclose an optical information reproducing apparatus including an integrated photodetector for detecting focusing and tracking errors signals.

Watanabe *et al.* (US Patent 6,493,304) disclose an optical disk apparatus including a signal convergence detection unit.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is

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(571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR 8/16/06



WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER